# Curriculum Vita

# Baojun Song

Associate Professor	Conrad J. Schmitt Hall 328
School of Computing	Telephone: 973-655-4265
Montclair State University	$Email: \ songb@mail.montclair.edu$
Montclair, New Jersey 07043	

# EDUCATION

Ph.D.	Biometry	August 2002	Cornell University, Ithaca, NY
M.S.	Applied Mathematics	$March \ 1988$	Xi'an Jiaotong University, Xi'an
B.S.	Applied Mathematics	July 1983	Xi'an Jiaotong University, Xi'an

# PROFESSIONAL EXPERIENCE

2003 -	Assistant, Associate Professor	Montclair State University
2008 - 2020	Adjunct Associate Professor	Arizona State University
Jun. 02 - Aug. 03	Postdoctoral Associate	Cornell University, CNLS
1996 - 2003	Faculty member of MTBI	Cornell University
1995 - 1997	Visiting Associate Professor	Cornell University
1992 - 1995	Associate Professor	Xi'an Jiaotong University
1983 - 1992	Instructor, Assistant Professor	Xi'an Jiaotong University

# PUBLICATIONS

- [47] Guijie Lan, Baojun Song, Sanling Yuan (2023) Epidemic threshold and ergodicity of an SEIR model with vertical transmission under the telegraph noise. *Chaos, Solitons & Fractals*,167: 113017. https://doi.org/10.1016/j.chaos.2022.113017.
- [46] Baojun Song (2021) Basic reinfection number and backward bifurcation. Mathematical Biosciences and Engineering, 18(6): 8064–8083. doi: 10.3934/mbe.2021400
- [45] Meili Li, Qianqian Yuan, Pian Chen, Baojun Song, Junling Ma (2021) Estimating the quarantine failure rate for COVID-19, *Infectious Disease Modelling*. 6: 924–929.
- [44] Yingying Wei, Baojun Song, Sanling Yuan (2021) Dynamics of a ratio-dependent population model for Green Sea Turtle with age structure, *Journal of Theoretical Biology*, **516**: 110614

- [43] Anji Yang, Baojun Song, Sanling Yuan (2021) Noise-induced transitions in a non-smooth SIS epidemic model with media alert. *Mathematical Biosciences and Engineering*, 2021, Volume 18, Issue 1: 745–763.
- [42] Guijie Lan, Sanling Yuan, Baojun Song (2021) The impact of hospital resources and environmental perturbations to the dynamics of SIRS model. *Journal of the Franklin Institute*, **358**: 2405–2433.
- [41] C. Herrera, E. Guerra, V. Penalver, A. Rosas, Y. Wei, J. Pringle, B. Espinoza, B. Song (2020). The Impact of Temperature-Dependent Sex Determination on the Population Dynamics of Green Sea Turtles (Chelonia Mydas), *Bionatura*, 5(1):1029–1038.
- [40] M. Li, H. Wang, B. Song and J. Ma(2019). The spread of influenza-like-illness within the household in Shanghai, China, Math. Biosc. & Eng., 17(2):1889–1900.
- [39] S. Yan, V. Moreno, S. Yuan, B. Song (2018). A Mathematical Study to Gout Symptoms, Journal of Applied Mathematics and Physics, 6:2579–2588.
- [38] Y. Zhao, D. Burkow, B. Song (2017). Mathematically Modeling the Role of Triglyceride Production on Leptin Resistance, 2017 International Conference on Intelligent Computing, Communication & Devices, Series of Advances in Intelligent Systems and Computing, S. Patnailk and V. Jain (Eds), Springer.
- [37] Jabbari A., C. Castillo-Chavez, F. Nazari, B. Song, and H. Kheiri (2016). A two-strain TB model with multiple latent stages, Math. Biosc. & Eng., 13(4):741-785.
- [36] C. A. Agrinsoni-Santiago, M. Baca, C. Cruz, A. Salina, J. Renova, M. L. Ross, B. Song(2016). Modeling the Interaction Dynamics between Honeybees and Food Availability, 2016 International Conference on Mathematical, Computational and Statistical Sciences and Engineering (MCSSE 2016), 369–376.
- [35] M. R. Leung, D. Padilla, B. Song, Y. Kang, N. Shemer, J. Vinagera (2015). A Symmetric Intraguild Predation Model for the Invasive Lionfish and Native Grouper, Commun. Math. Biol. Neurosci., 2015:24, 1-38. http://scik.org/index.php/cmbn/article/view/ 2301/1191.
- [34] Jie Lou, Hongna Zhou, Dong Liang, Zhen Jin and Baojun Song (2015). The Coupled withinand between-host Dynamics in the Evolution of HIV/AIDS in China, Journal of Applied Analysis and Computation, 5(4): 731–750. doi: 10.11948/2015056.
- [33] B. Song, W. Du, J. Lou (2013). Different types of backward bifurcations due to densitydependent treatments, Math. Biosc. & Eng., 10(5&6):1651-1668.
- [32] Gerardo Chowell, Zhilan Feng and Baojun Song (2013). From the Guest Editors, Math. Biosc. & Eng., 10(5&6): i-xxiv.
- [31] L. Wu, B. Song, W. Du, J. Lou (2012). Mathematical modelling and control of Echinococcus in Qinghai Province, China, Math. Biosc. & Eng., 10(2):425-444.

- [30] H. Cao, Y. Zhou, B. Song (2011). Complex Dynamics of Discrete SEIS Models with Simple Demography, Discrete Dynamics in Nature and Society, vol. 2011, Article ID 653937, 21 pages, 2011. doi:10.1155/2011/653937.
- [29] B. Song, J. Lou, Q. Wen (2011). Modelling two different therapy strategies for drug T-20 on HIV-1 patient, Appl. Math. Mech. Engl. Ed., 32(4):419–436.
- [28] K. R. Ríos-Soto, B. Song, and C. Castillo-Chavez (2011). Epidemic Spread of Influenza Viruses: The Impact of Transient Populations on Disease Dynamics Math. Biosc. & Eng., 8(1):199-222.
- [27] F. Berezovsky, S. Wirkus, B. Song, and C. Castillo-Chavez (2010). Dynamics of Population Communities with Prey Migrations and Strong Allee Effects: A Bifurcation Approach, Mathematical Medicine and Biology. doi:10.1093/imammb/dqq022.
- [26] F. Berezovsky, B. Song, C. Castillo-Chavez (2010). Role of Prey Dispersal and Refuges on Predator-Prey Dynamics, SIAM J. Appl. Math., 70(6):1821–1839.
- [25] C. Castillo-Chavez, C. Kribs-Zaleta, Y. Kuang, B. Song (2009). From Guest Editors, Math. Biosc. & Eng., 6: i-ii.
- [24] A. B. Gumel, B. Song (2008). Existence of Multiple-stable Equilibria for a Multi-drug- resistent Model of Mycobacterium Tuberculosis, Mathematical Biosciences and Engineering, 5(3):437-455.
- [23] O. Sharomi, C.N. Podder, A. B. Gumel, B. Song (2008). Mathematical Analysis of the Transmission Dynamics of HIV/TB Co-infection in the Presence of Treatment, Mathematical Biosciences and Engineering, 5(1):145–174.
- [22] J. Li, B. Song, X. Wang (2007). An Extended Discrete Ricker Population Model with Allee Effect, J. Difference Eqns. Appl., 13(4):309–321.
- [21] B. Song, D. Thomas (2007). Dynamics of Starvation in Humans, J. Math. Biol., 53:27-43.
- [20] G. Chowell, A. Cintrón-Arias, S. Del Valle, F. Sánchez, B. Song, J. M. Hyman, H. Hethcote, and C. Castillo-Chavez (2006). Mathematical applications associated with the deliberate release of infectious agents, Modeling The Dynamics of Human Diseases: Emerging Paradigms and Challenges, AMS Contemporary Mathematics (CONM), 410:51–71. Gumel A. Castillo-Chavez, C., Clemence, D. P. and R. E. Mickens. (Eds.), AMS, Providence, RI.
- [19] B. Song, M. Castillo-Garsow, K. R. Ríos-Soto, M. Mejran, L. Henso, C. Castillo-Chavez (2006). Raves, Clubs, and Ecstasy: The Impact of Peer Pressure, Journal of Mathematical Biosciences and Engineering, 3(1):249–266.
- [18] F. Berezovsky, G. Karev, B. Song, and C. Castillo-Chavez (2005). Simple Models with Surprised Dynamics, Journal of Mathematical Biosciences and Engineering, 2(1):133–152.
- [17] M. A. Jones, B. Song, and D. Thomas (2004). Controlling Wound Healing through Debridement, Journal of Mathematical and Computer Modeling, 40:1057–1064.

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- [16] C. Castillo-Chavez, B. Song (2004). Dynamical Models of Tuberculosis and Their Applications, Journal of Mathematical Biosciences and Engineering, 1(2):361–404.
- [15] C. Castillo-Chavez, B. Song, and J. Zhang (2003). An Epidemic Model with Virtual Mass Transportation: The Case of Smallpox in a Large City, Bioterrorism: Mathematical Modeling Applications in Homeland Security (SIAM Frontier Series in Applied Mathematics). pp.173– 197. H. T. Banks and Carlos Castillo-Chavez (Eds.), SIAM, Philadelphia, PA.
- [14] C. Castillo-Chavez, B. Song (2003). Models for the Transmission Dynamics of Fanatic Behaviors, Bioterrorism: Mathematical Modeling Applications in Homeland Security (SIAM Frontier Series in Applied Mathematics). pp.155–172. H. T. Banks and Carlos Castillo-Chavez (Eds.), SIAM, Philadelphia, PA.
- [13] B. Song, C. Castillo-Chavez, J. P. Aparicio (2002). Tuberculosis models with fast and slow dynamics: The role of close and casual contacts, J. Math. Biosci. 180:187–205.
- [12] B. Song, C. Castillo-Chavez, J. P. Aparicio (2002). Global dynamics of tuberculosis models with density dependent demography, Mathematical Approaches for Emerging and Reemerging Infectious Diseases: Models, Methods and Theory, IMA vol. 126, pp. 275–294. C. Castillo-Chavez, S. Blower, P. van den Driessche, D. Kirschner, A. A. Yakubu (Eds.), Springer-Verlag, New York.
- [11] Y. Zhou, B. Song, Z. Ma (2002). The Global stability analysis for an SIS model with age and infection age structures. Mathematical Approaches for Emerging and Reemerging Infectious Diseases: Models, Methods and Theory, IMA vol. 126, pp. 313–336. C. Castillo-Chavez, S. Blower, P. van den Driessche, D. Kirschner, A. A. Yakubu (Eds.), Springer-Verlag, New York.
- [10] C. Castillo-Chavez, B. Song (2002). An overview of dynamical models of tuberculosis, in: Summer School on Mathematical Biology, Vol. 20, A. Margheri, C. Rebelo, F. Zanolin (Eds.), pp. 13–62.
- [9] B. Song (1995). The effects of time delay on population in a polluted environment, J. Engineering Math., **12(3)**:190–201.
- [8] J. Shou, B. Song, Y. Zhou, T. Dong, C. Li (1994). Mathematical Models and Examples in Modeling, Xi'an Jiaotong University Press, Xi'an, China.
- B. Song (1993). Persistence of two species in a fluctuating environment, J. Biomathematics, 20(1):222-229.
- [6] J. Shou, B. Song, Y. Zhou, T. Dong, C. Li (1993). Viewpoints on modeling and experience of MCM, J. Advanced Education, No. 4.
- [5] B. Song (1992). The effects of residual toxicant on population and recovery of individual, J. Engineering Math., 9(2):83–88.
- [4] Z. Ma, B. Song, W. Wang (1991). The survival of population in a polluted environment, J. Xi'an Jiaotong University, 25(20):37–46.

- [3] Z. Ma, B. Song, T. G. Hallam (1989). The threshold of survival for systems in a fluctuating environment, Bull. Math. Biol., **51(3)**:311–323.
- [2] B. Song (1988). Effects of residual toxicants on population and recovery of individual, in: Proceedings of First Conference of Biomathematics, L. Chen, Z. You, Z. Ma (Eds.), Xi'an, China, June, 1988. pp. 187.
- Z. Ma, B. Song, T. G. Hallam (1988). The threshold between persistence and extinction of a population in a polluted environment, in: Proceedings of First Conference of Biomathematics, L. Chen, Z. You, Z. Ma (Eds.), Xi'an, China, June, 1988. pp. 166.

# EDITORIAL BOARDS

- [1] 2021–, Mathematical Biosciences and Engineering.
- [2] 2013-2017, Associate Editor : International Journal of Computational Mathematics.http: //www.hindawi.com/journals/ijcm/editors/

# EDITED VOLUMES

- [1] Gerardo Chowell, Zhilan Feng and Baojun Song (2013). In honor of Professor Carlos Castillo-Chavez, *Mathematical Biosciences and Engineering*, Volume 10, Issues 5&6, 473 pages, 2013.
- [2] C. Castillo-Chavez, C. Kribs-Zaleta, Y. Kuang, B. Song (2009). A tribute to the mathematical epidemiology work of Fred Brauer and Karl Hadeler, *Mathematical Biosciences and Engineering*, Volume 6, Number 2, 488 pages, 2009.

# PRESENTATIONS

- [1] University of Shanghai for Science and Technology, Shanghai, P. R. China, Dec. 31, 2020, Transmission Dynamics of Tuberculosis and Basic Reinfection Number.
- [2] The Conference on Ordinary Differential Equations and Dynamical Systems (COCEDS 2019), Jan. 5–7, 2019, Sanya, China, A Mathematical Study to Gout Symptoms.
- [3] University of Shanghai for Science and Technology, Shanghai, P. R. China, May 12, 2017, Modeling the Interaction Dynamics between Honeybees and Food Availability.
- [4] 2016 International Conference on Mathematical, Computational and Statistical Sciences and Engineering (MCSSE 2016), Shenzhen, China, October 30–31, 2016. Modeling the Interaction Dynamics between Honeybees and Food Availability.
- [5] Summer School for Graduate Students, Xi'an Jiantong University, Xian, P. R. China, August 5, 2014. (A Symmetric Intraguild Predation Model for the Invasive Lionfish and Native Grouper.
- [6] Summer School for Graduate Students, Xi'an Jiantong University, Xian, P. R. China, August 5, 2014. Backward Bifurcations Resulted from Density-dependent Treatments.

- [7] SMB Annual Meeting and Conference, June 10–13, 2013, Temple, AZ. Title of talk: Backward Bifurcations Resulted from Density-dependent Treatments.
- [8] The Fourth Conference on Computational and Mathematical Population Dynamics, May 28 -June 2nd, 2013, North University of China, Taiyuan. Title of talk: Backward Bifurcations Resulted from Density-dependent Treatments.
- [9] Southwest University, Chongqing, P. R. China, May 22, 2013, Title of talk: Backward Bifurcations Resulted from Density-dependent Treatments.
- [10] Shanghai University, Shanghai, P. R. China, May 10, 2013, Title of talk: A Browse to Fundamental Dynamical Models in Mathematical Biology.
- [11] Shanghai University, Shanghai, P. R. China, May 8, 2013, Title of talk: Dispersal, Allee Effects and Transmission of Avian Influenza between Two Patches.
- [12] SIAM Annual Meeting, July 19–13, 2012, Minneapolis, MN. Title of talk: Bifurcation Approaches in Studying Reinfection Forces and Treatments.
- [13] Mini-Workshop Series 3: Heterogeneity and Ecologies, June 26–July 1st, 2011, Tempe, AZ.
  Title of talk: Basic Re-infection Number: A Measure of Re-infection Forces.
- [14] Shanxi University, January 11, 2011, Taiyuan, Shanxi Province, China. Title of talk: Mathematical Models for the Transmission Dynamics of Tuberculosis and their Applications.
- [15] North University of China, January 10, 2011, Taiyuan, Shanxi Province, China. Title of talk:
  Basic Re-infection Number: A Measurement for Re-infection Forces.
- [16] Xian Jiaotong University, January 8, 2011, Xian, Shaanxi Province, China. Title of talk: Mathematical Approaches to Studying "Socially-Transmitted Diseases among Adolescents and a Study on Autism.
- [17] Xian Jiaotong University, December 24, 2010, Xian, Shaanxi Province, China. Title of talk: Basic Re-infection Number: A Measurement for Re-infection Forces.
- [18] Lanzhou University, December 21, 2010, Lanzhou, Gansu Province, China. Title of talk: Mathematical Models for the Transmission Dynamics of Tuberculosis and their Applications.
- [19] Lanzhou University, December 20, 2010, Lanzhou, Gansu Province, China. Title of talk: Mathematical Approaches to Studying "Socially-Transmitted" Diseases among Adolescents.
- [20] Lanzhou University of Technology, December 20, 2010, Lanzhou, Gansu Province, China. Title of talk: Basic Re-infection Numbers.
- [21] Lanzhou University, December 19, 2010, Lanzhou, Gansu Province, China. Title of talk: Basic Re-infection Numbers.

- [22] Lanzhou Jiaotong University, December 19, 2010, Lanzhou, Gansu Province, China. Title of talk: Mathematical Models for the Transmission Dynamics of Tuberculosis and their Applications.
- [23] Canada-China International Conference on The Dynamics of Climate Impact on Infectious Diseases, December 15–18, 2010, Nanjing Normal University, Nanjing, China. Title of talk: Basic Re-infection Numbers.
- [24] Mathematical and Theoretical Biology Institute, July 16, 2010, Arizona State University, Tempe, AZ. Title of talk: Assessing HIV Treatment Regimens by a Non-autonomous Model.
- [25] The Second International Conference on Mathematical Modeling and Analysis of Populations in Biological Systems, October 9–11, 2009, Huntsville, Alabama. Title of talk: Transmission of Avian Influenza between Two Patches.
- [26] International Workshop "Mitigating the spread of influenza A (H1N1), Part II," Vancouver, BC, Canada, September 14–16, 2009. Title of talk: Spread of Avian Influenza by Mallards Between USA and Canada.
- [27] Mathematical and Theoretical Biology Institute, July 17, 2009, Arizona State University, Tempe, AZ. Title of talk: Discrete Patch Models for Avian Influenza and Applications.
- [28] Department of Mathematics, Xi'an Jiaotong University, Xi'an, P. R. China, June 19, 2009, Title of talk: Mathematical Models for the Transmission Dynamics of Tuberculosis.
- [29] Department of Mathematics, Shanghai University, Shanghai, P. R. China, June 18, 2009, Title of talk: Transmission Dynamics of Diseases and Socially Transmitted Diseases.
- [30] Joint Conference of the Society for Mathematical Biology and the Chinese Society for Mathematical Biology, June 14–17, 2009, Hangzhou, P.R. China. Title of talk: How migratory birds affect the epidemics of avian influenza.
- [31] Mathematical Modeling and Analysis of Populations in Biological Systems, October 5–7, 2007, Tucson, Arizona. Title of talk: Role of prey dispersal, refuge and the Allee effects on predator-prey dynamics.
- [32] Workshop on the Mathematics of Global Public Health: Modeling disease transmission and biological invasions. March 7–10, 2007, Arizona State University. Title of talk: Basic Reinfection Number and Backward Bifurcation.
- [33] Colloquium of Department of Mathematics, Howard University, February 9, 2007, Title of talk: Transmission Dynamics of Diseases and Socially Transmitted Diseases.
- [34] Joint SMB (Society of Mathematical Biology)-SIAM Conference on the Life Sciences, July 31– August 4, 2006, Raleigh, NC. Title of talk: Mathematical Models of Tuberculosis Re-infections and Multiple Strains: Basic Reinfection Number.

- [35] Mathematical and Theoretical Biology Institute Colloquium, June 16, 2006, Arizona State University, Tempe, AZ. Title of talk: Tuberculosis models with Basic Reinfection Ratio.
- [36] MTBI seminar, June 28, 2006, Arizona State University, Tempe, AZ. Title of talk: Forward or Backward at  $\mathcal{R}_0 = 1$ ?
- [37] SIAM (Society for Industrial and Applied Mathematics) Annual Meeting, July 10–14, 2006, Boston, MA. Title of talk: Transmission Dynamics of Tuberculosis of Multiple Strains.
- [38] Mathematical Sciences Department seminar: December 6, 2005. Title of talk: Modeling the Dynamics of Infectious Diseases.
- [39] AMS-IMS-SIAM Summer Research Conference, Modeling the Dynamics of Human Diseases: Emerging Paradigms and Challenges, July 17-21, 2005, Snowbird, UT. Title of talk: Dynamical Model for Multiple-drug Resistant Tuberculosis with Exogenous Re-infection (Joint with Abba Gumel).
- [40] SIAM Annual Meeting, July 11–15, 2005, New Orleans, LA. Title of talk: Global Dynamics of Epidemic Models with Hierarchy Mixing.
- [41] MTBI, July 6, 2005, Los Alamos, NM. Title of talk: Fluctuation Lemma and its Applications.
- [42] MTBI, June 27, 2005, Los Alamos, NM. Title of talk: Backward Bifurcation.
- [43] SIAM Annual Meeting, July 11–16, 2004, Portland, Oregon. Title of talk: Modeling Multiple-Mixing Structure.
- [44] Computational and Mathematical Approaches to Homeland Security, Public Health Policy and Control: Challenges Posed by Emerging and Reemerging Diseases. Center for Nonlinear Studies (CNLS) and the Mathematical Theoretical Biology Institute, June 30– July 3, 2003, Los Alamos, NM. Title of talk: Responses and Consequences to a Smallpox Attack in a Large City.
- [45] Mathematical Epidemiology Tutorial 2003 (Sponsored by Los Alamos National Laboratory Center of Nonlinear Studies) Motorola Building, Los Alamos, NM, July 3rd, 2003. Title of talk: Forward or Backward at  $\mathcal{R}_0 = 1$ ?
- [46] T-D Sciences Workshop on Science-Based Prediction. T and D Division in the Los Alamos National Laboratory (LANL), May 6, 2003, Los Alamos, NM. Title of poster: An Epidemic Model with Virtual Mass Transportation: The Case of Smallpox in a Large City.
- [47] First SIAM Conference on Life Science, March 6–8, 2002. Boston, Massachusetts. Title of talk: Dynamical models for the spread of tuberculosis.
- [48] International Conference on Mathematical and Theoretical Biology: Annual meeting of Society of Mathematical Biology (SMB) joint with Japanese Association for Mathematical Biology. July 16–19, 2001. Hilo, Hawaii. Title of talk: Tuberculosis control in the US: a control strategy to meet CDC's goal.

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- [49] An International Workshop on Dynamical Systems and Their Applications in Biology, August 2–6, 2001, Cape Breton, Nova Scotia, Canada. Title of talk: Tuberculosis epidemics at two social levels: the role of time scales.
- [50] Biometrics Unit Discussion Series (BUDS), Cornell University, Ithaca, New York, April 5, 2001. Title of talk: Dynamical Models for the Transmission of Tuberculosis and a Control Strategy for the U.S.
- [51] Workshop and Tutor Program on Emerging and Reemerging Infectious Diseases sponsored by the Institute for Mathematics and its Applications (IMA), May 11–22, 1999, Minneapolis, Minnesota. Title of poster: TB models with density-dependent recruitment rates.
- [52] Conference on Mathematical Biology and Annual National Meeting of Society of Chinese Ecology, July 12–19, 1990, Changchun, China. Title of talk: Threshold value between persistence and extinction of population in a polluted environment.
- [53] First International Conference of Biomathematics, Xi'an, China, June, 1988. Title of talk: The threshold between persistence and extinction in a fluctuating environment.

# TEACHING EXPERIENCE AT MONTCLAIR STATE UNIVERSITY

- Courses Taught at MSU
  - [1] Applied Calculus I–AMAT 120
  - [2] Introduction to Linear Algebra– AMAT 240
  - [3] Applied Probability–AMAT 345
  - [4] Applied Mathematics I–AMAT 350
  - [5] Mathematical Modeling–AMAT 356
  - [6] Mathematical Biology–AMAT 546
  - [7] Applied Linear Algebra–AMAT 532
  - [8] Capstone in MS Applied Mathematics–AMAT 697
  - [9] Capstone in Statistics–STAT 497
  - [10] Precalculus–MATH 112
  - [11] Mathematics for Business II–MATH 114
  - [12] Calculus A–MATH 116
  - [13] Calculus I, II, III–MATH 122, 221, 222
  - [14] Introduction to Linear Algebra–MATH 235
  - [15] Linear Algebra–MATH 335
  - [16] Probability–MATH 340
  - [17] Mathematical Modeling in Biology–MATH 360
  - [18] Differential Equations–MATH 420
  - [19] Foundations of Modern Algebra–MATH 431

- [20] Introduction to Applied Mathematics–MATH 460
- [21] Mathematical Modeling–MATH 469
- [22] Independent Study–STAT 649
- [23] Independent Study MATH 497, MATH 498
- [24] Independent Study–ROCS
- [25] Foundations of Abstract Algebra–MATH 518
- [26] Linear Algebra I–MATH 535
- [27] Numerical Analysis–MATH 560
- [28] Apply Industrial Mathematics–MATH 591
- [29] Graduate Research–MATH-690
- [30] Master Thesis–MATH 698
- Master-degree student, Kimberly Rude graduated on May 2009. Thesis Title: Patch Models and Applications on the Spread of Avian Influenza.

# SELECTED TECHNICAL REPORTS

- E. Guerra, C. Herrera, V. Penalver, A. Rosas, Y. Wei, J. Pringle, B. Espinoza, B. Song (2019) The Impact of Temperature-Dependent Sex Determination on the Population Dynamics of Green Sea Turtles (*Chelonia mydas*), MTBI Tech. Report 2019.
- [2] Emily Friedman, Xin Jin, Xarissa Levine, Ixtaccihuatl Obregon, Tonantzin Real Rojas, Josean Velazquez-Molina, Mugdha Thakur, Asma Azizi, Baojun Song, Christopher Kribs, Aditi Ghosh(2019) Minimizing Drug Resistant Cases of Gonorrhea through Cost-Effective Treatment Plans. MTBI-2019, https://qrlssp.asu.edu/sites/default/files/gonorrhea.pdf
- [3] E. Dorn, Z. Jones, C. Mackey, J. C. Reyes, M. Thakur, V. M. Moreno, C. Castillo-Chavez, C. Castillo-Garsow, B. Song (2018) Controlling Foodborne Infections in Lettuce: Testing and Cleaning Methods for Curbing the Spread of *E. coli* O157:H7. MTBI Tech. Report 2018.
- [4] D. Akman, C. Bustamante, J. Cevallos, C. Wang, J. Bates, V. Arunachalam, L. M. Arriola, B. Song(2018) Modeling an Anthrax Plume: Prioritizing the Delivery of Antibiotics After an Anthrax Bioterrorism Event, MTBI Tech. Report 2018.
- [5] Shuixian Yan, Victor Moreno, Baojun Song (2017) A Mathematical Study to Gout Symptoms, MTBI Tech. Report 2017, MTBI-14-06M.
- [6] Jaysha Camacho, Rachel Matheson, Juliana Noguera, Brandon Summers, Nanda Mallapragada, Baojun Song(2017). Transportation Networks Optimized for Various Income Groups and their Impact on the Spread of Airborne Disease, MTBI Tech. Report 2017, MTBI-14-04M.
- [7] Hilary Marrero, Whitney Mgbara, Pradyuta Padmanabhan, HaileyStirneman, Baltazar Espinoza, Baojun Song(2016). The Impact of Preferred Mixing on the Sexual Transmission of ZIKV at the 2016 Summer Olympics, MTBI Tech. Report 2016, MTBI-13-01M.

- [8] Y. Zhao, D. Burkow, B. Song (2016). Mathematically Modeling the Role of Triglyceride Production on Leptin Resistance, MTBI Tech. Report 2016, MTBI-13-08M.
- [9] Carlos A. Agrinsoni-Santiago, Matthew Baca, Carlos Cruz, Armando Salinas, Juan Renova, Mary L. Ross, and Baojun Song(2015) Modeling the Interaction Dynamics between Honeybees and Food Availability, MTBI Tech. Report 2015, MTBI-12-03M.
- [10] Laura Asaro, Joanna Myers, Carlos C. Vera Recio, Alan Wirkus-Camacho, Miles Manning, Yiqiang Zheng, Baojun Songm(2013) Asymmetric Intraguild Predation Between Protoperidinium and Heterocapsa in the Presence of a Mutual Predator, MTBI Tech. Report 2013, MTBI-10-01M.
- [11] M. R. Leung, D. Padilla, N. Shemer, J. Vinagera, B. Song (2011). A Symmetric Intraguild Predation Model for the Invasive Lionfish and Native Grouper. *Studies in Theoretical Biology:* A Collection of Undergraduate Research, MTBI-08-06M
- [12] L. Catron, A L Forgia, A. Padilla, R. Castro. K. Rios-Soto, B.Song (2010). Immigration Laws and Immigrant Health: Modeling the Spread of Tuberculosis in Arizona, *Studies in Theoretical Biology: A Collection of Undergraduate Research*, Department of Mathematics & Statistics, Arizona State University.
- [13] M. Bilbao, A. Castro, T. Rigazio, N. Brewer, K. Rude, S. Tennenbaum, B. Song, X. Wang (2008). The Effects of Maternal Age on the Prevalence of Autism, MTBI Technical Report Series, MTBI-05-03M. (URL, http://mtbi.asu.edu/research/archive)
- [14] D. Chowell, B. Jimenez-González, A. Smith, K. Riíos-Soto, B. Song (2007). The Cursed Duet: Dynamics of HIV-TB Co-infection in South Africa, MTBI Technical Report Series, MTBI-04-08M.
- [15] O. Colon-Rentas, L. Gordon, L. Montejo, P. Reitsma, F. Sánchez, B. Song (2006). The Impacts of the Sleeper Effect and Relapse on the Dynamics of Cigarette Smoking Among Adolescents, MTBI Technical Report Series, MTBI-03-04M.
- [16] L. Davidoff, H. Harrington, L. Montejo, D. Robbins, F. Sánchez, B. Song (2005). Effects of Lifestyle Choices on Atherosclerosis: A Mathematical Approach, MTBI Technical Report Series, MTBI-02-06M.
- [17] J. L. Dillon, N. Baeza, M. C. Ruales, B. Song (2002). A mathematical model of depression in young women as a function of the pressure to be "beautiful", Technical Report of Biometrics Department, Cornell University, BU-1616-M.
- [18] B. J. Brown, E. Cabral, T. R. Hegg, B. Song (2001). Mouse in the House: looking at the spread of hantavirus in houses through the deer mouse population, Technical Report of Biometrics Department, Cornell University, BU-1585-M.
- [19] M. Castillo-Garsow, L. Henson, M. Mejran, K. Ríos-Soto, B. Song (2001). Raves, Clubs, and Ecstasy: The Impact of Peer Pressure, Technical Report of Biometrics Department, Cornell University, BU-1581-M.

- [20] B. Song, C. Castillo-Chavez (2001). Tuberculosis control in the U.S.: A strategy to meet CDC's goal, Technical Report of Biometrics Department, Cornell University, BU-1561-M.
- [21] C. Acevedo-Estefanía, C. González, K.Ríos-Soto, E. Summerville, B. Song, C. Castillo-Chavez (2000). A mathematical model for lung cancer: the effects of second-hand smoke and education. Technical Report of Biometrics Department, Cornell University, BU-1525-M.
- [22] B. Song, C. Castillo-Chavez, et al. (2000). A socially transmitted disease: teacher qualifications and dropout rate, Technical Report of Biometrics Department, Cornell University, BU-1526-M.

# STUDENTS' PRESENTATIONS

- [1] The Impact of Temperature-Dependent Sex Determination on the Population Dynamics of Green Sea Turtles, *The 2019 SACNAS National Conference*, Honolulu, Hawaii, October 31st-November 2nd, 2019, presented by V. Penalver.
- [2] "The Dynamics between Honeybees and Food Availability Modeled through Symbiotic Interactions", Garden State Undergraduate Mathematics Conference, April 13, 2019, Raritan Valley Community College, Branchburg, NJ, presented by Joshua Nieve-Silva.
- [3] Controlling Foodborne Infections in Lettuce: Testing and Cleaning Methods for Curbing the Spread of E. coli O157:H7, Joint Mathematics Meetings, Baltimore, MD, January 16–19, 2019, Presented by Emily Dorn.
- [4] Controlling Foodborne Infections in Lettuce: Testing and Cleaning Methods for Curbing the Spread of E. coli O157:H7, 2018 SACNAS National Conference, San Antonio, Texas, October 11–13, 2018, Presented by Jessica. C. Reyes.
- [5] Transportation Networks Optimized for Various Income Groups and their Impact on the Spread of Airborne Disease, *Joint Mathematics Meetings*, San Diego, CA, January 10-13, 2018, Presented by Rachel Matheson.
- [6] Joint poster, entitled "The Dynamics between Honeybees and Food Availability Modeled through Symbiotic Interactions", 10th Annual GS-LSAMP/NNJ-B2B STEM Research Conference, Oct. 12, 2018, Rutgers University, New Brunswick, presented by Joshua Nieve-Silva.
- [7] Joint poster, entitled "The Dynamics between Honeybees and Food Availability Modeled through Symbiotic Interactions", 12th Annual Student Research Symposium od Montclair State University, 4/27/2018, University Hall, Montclair State University, presented by Joshua Nieve-Silva.
- [8] Transportation Networks Optimized for Various Income Groups and their Impact on the Spread of Airborne Disease, 2017 SACNAS National Conference, Salt Lake City, Utah, October 19 - 21, 2017. Presented by Jaysha Camacho.
- [9] Secondary Aneurysm Formation due to the Effects of a Primary Aneurysm, The 2012 SACNAS National Conference "Science, Technology, and Diversity for a Healthy World", October 11-14, 2012, Seattle, Washington. Presented by Daniel Burkow.

- [10] Mathematical Models for Tuberculosis Contact Tracing Program, SIAM/MAA Third Mid-Atlantic Regional Applied Mathematics Student Conference, Shippensburg University, April 6-7, 2012, Presented by Tian Xing.
- [11] A Symmetric Intraguild Predation Model for the Invasive Lionfish and Native Grouper, Mathematical Association of America (MAA) and the American Mathematical Society (AMS), Boston, MA, January 6, 2012, Presented by Margaret-Rose Leung.
- [12] A Symmetric Intraguild Predation Model for the Invasive Lionfish and Native Grouper, MAA MathFest 2011, Lexington, Kentucky, August 4-August 6, 2011. Presented by Margaret=Rose Leung.
- [13] A Symmetric Intraguild Predation Model for the Invasive Lionfish and Native Grouper, 2011 SACNAS National Conference, San Jose, CA, October 27-30, 2011. Presented by Margaret-Rose Leung.
- [14] Immigration Laws and Immigrant Health: Modeling the Spread of Tuberculosis in Arizona, MAA, MathFest 2010, Pittsburgh August 5–7,2010. L. Catron, A. L. Forgia, A. Padilla, R. Castro.
- [15] Patch Models and Applications on the Spread of Avian Influenza, The Third Annual Students Research Symposium, April 30, 2009, Montclair State University, Montclair, NJ. Kimberly Rude.
- [16] The Effects of Maternal Age on the Prevalence of Autism, AMS and MAA Joint Mathematics Meetings, Washington, DC, January 5-8, 2009.
- [17] Impact of Water Fowl Migration on the Dynamics of Avian Influenza Transmission, The Second Annual Students Research Symposium, May 3rd, 2008, Montclair State University, Montclair, NJ. Andrew Huth.
- [18] The Cursed Duet: Dynamics of HIV-TB co-infection in South Africa, MAA Math-Fest 2007, San Jose, CA, August 3–5, 2007.
- [19] The Impact of the Sleeper Effect and Relapse on the Dynamics of Cigarette Smoking Among Adolescents, Joint Meetings of the AMS and MAA, New Orleans, LA, January 5–8, 2007.
- [20] A Cluster Dynamic Model of Tuberculosis with two Strains and Its Applications to Benin, Annual Meeting of the Laboratory Robotics Interest Group of the American Chemical Society, May 17, 2007, New Brunswick, NJ. Edme Soho.
- [21] A Cluster Dynamic Model of Tuberculosis with two Strains and Its Applications to Benin, The First Annual Students Research Symposium, May 5, 2007, Montclair State University, Montclair, NJ. Edme Soho,
- [22] A Cluster Dynamic Model of Tuberculosis with two Strains and Its Applications to Benin, MAA-NJ Section Annual Meeting in Conjunction with the Fourth Garden State Undergraduate Mathematics Conference, March 31, 2007, Rowan University. Edme Soho.

- [23] A Cluster Dynamic Model of Tuberculosis with two Strains and Its Applications to Benin, Opportunities in Mathematical Biology for Under Represented Groups Workshop, March 23–25, 2007, Mathematical Biosciences Institute, Ohio State University. Edme Soho.
- [24] The Impact of the Sleeper Effect and Relapse on the Dynamics of Cigarette Smoking Among Adolescents, Joint SMB (Society of Mathematical Biology)-SIAM Conference on the Life Sciences, Raleigh, NC, July 31– August 4, 2006.
- [25] The Impact of the Sleeper Effect and Relapse on the Dynamics of Cigarette Smoking Among Adolescents, The 2006 National Conference of the Society for Advancement of Chicanos and Native Americans in Science (SACNAS), Tampa, FL, October 26–29, 2006.
- [26] Effects of Lifestyle Choices on Atherosclerosis, AMS & MAA Joint Mathematics Meetings, San Antonio, TX, January 12–15, 2006.
- [27] A Multi-scale Interspecies Competition Model, AMS & MAA Joint Mathematics Meetings San Antonio, TX, January 12–15, 2006.
- [28] A Mathematical Model of Partial Starvation, MAA-NJ Section 50th Anniversary Meeting in Conjunction with the Third Garden State Undergraduate Mathematics Conference, Georgian Court University Lakewood, NJ Saturday, April 8, 2006. Jessica Marini,
- [29] The Dynamics of Alcoholism, MAA-NJ Section 50th Anniversary Meeting in Conjunction with the Third Garden State Undergraduate Mathematics Conference, Georgian Court University, Lakewood, NJ Saturday, April 8, 2006. Michelle Kristiansen.
- [30] A Mathematical Model of Partial Starvation, The 29th Annual Sigma Xi Student Research Conference, Saturday, May 6, 2006, Montclair State University. Jessica Marini.
- [31] **The Dynamics of Alcoholism**, *The 29th Annual Sigma Xi Student Research Conference*, Saturday, May 6, 2006, Montclair State University. Michelle Kristiansen.
- [32] A Multi-scale Interspecies Competition Model, MAA MathFest 2005, Albuquerque, NM, August 4–6, 2005.
- [33] Effects of Lifestyle Choices on Atherosclerosis, MAA MathFest 2005, Albuquerque, NM, August 4–6, 2005.
- [34] Effects of Lifestyle Choices on Atherosclerosis, 2005 SACNAS National Conference, Denver, Colorado, September 29–October 1, 2005.
- [35] A Multi-scale Interspecies Competition Model, 2005 SACNAS National Conference, Denver, Colorado, September 29–October 1, 2005.
- [36] Impact of Drought on New Jersey Black Bear, The Garden State Undergraduate Math Conference, April 2nd, 2005, Edison, NJ. Mark Maloney.
- [37] Leslie Model Comparison between Indian and Chinese Populations, The 28th Annual Sigma Xi Student Research Conference, May 7, 2005. Milan Vasic.

- [38] Impact of Drought on New Jersey Black Bear, The 28th Annual Sigma Xi Student Research Conference, May 7, 2005. Mark Maloney
- [39] A Dynamic Model for Two-Strain Tuberculosis with Re-infection The 28th Annual Sigma Xi Student Research Conference, May 7, 2005. Supun Pathirana.
- [40] Dynamics of Human Starvation, The 28th Annual Sigma Xi Student Research Conference, May 7, 2005. Jessica Marini.
- [41] Estimation of Tuberculosis Latent Period, The 28th Annual Sigma Xi Student Research Conference, May 7, 2005. Leonard Chang.
- [42] Dynamical Model for Drug Resistant TB, The 28th Annual Sigma Xi Student Research Conference, May 7, 2005. A. Aziz Sylla

# TEAM AWARDS of MCM

- Meritorious Award of SCUDEM V 2020 (SIMIODE Challenge Using Differential Equations Modeling), November 14, 2020. Team of Montclair State University: Saul Contreras, Julian Putnam, and Warner Carnero, Coach: Baojun Song
- Outstanding Award of SCUDEM(Student Competition Using Differential Equation Modeling), Manhattan College, Riverdale NY, October 27, 2018. Team of Montclair State University: Holly Caldes, Thomson Kneeland, Katherine Ruddy, Coach: Baojun Song.
- Honorable Mention of COMAP, Mathematical Contest in Modeling, 1994. Team of Xi'an Jiaotong University, Jun Ma, Xingxing Yu and Yu Liu, Coach: Baojun Song.
- Honorable Mention of COMAP, Mathematical Contest in Modeling, 1993. Team of Xi'an Jiaotong University, Chengyun Chu, Dong Chen and Jin Zhang, Coach: Baojun Song.
- Honorable Mention Award of Mathematical Contest in Modeling, CSIAM (Chinese Society for Industrial and Applied Mathematics) of Shaanxi Province of China, 1992. Team 1 of Xi'an Jiaotong University, Chengyun Chu, Dong Chen and Jin Zhang, Coach: Baojun Song.
- Honorable Mention Award of Mathematical Contest in Modeling, CSIAM (Chinese Society for Industrial and Applied Mathematics) of Shaanxi Province of China, May, 1992. Team 2 of Xi'an Jiaotong University, Min Huang, Rui Yang and Xianyuan Ni , Coach: Baojun Song.
- Outstanding Award of Mathematical Contest in Modeling, CSIAM (Chinese Society for Industrial and Applied Mathematics) of Shaanxi Province of China, May, 1992. Team 1 of Xi'an Jiaotong University, Jia li, Ying Li and Chuhong Fei, Coach: Baojun Song.
- Meritorious Award of COMAP, Mathematical Contest in Modeling, 1992. Team of Xi'an Jiaotong University, Jia li, Ying Li and Chuhong Fei, Coach: Baojun Song.

# HONORS AND AWARDS

• Teaching Awards

- [1] Outstanding Teaching Assistant, the College of Agriculture and Life Science, Cornell University, 2002.
- [2] Outstanding Team Advisor of Mathematical Contest in Modeling, CSIAM (Chinese Society for Industrial and Applied Mathematics) of Shaanxi province of China, 1992.
- [3] Teaching Reform Award, Shaanxi Province, 1992.
- [4] First-class Teaching Award in teaching contest, Shaanxi Province, 1992.
- [5] Meritorious Team Advisor, COMAP, Mathematical Contest in Modeling, 1992.
- [6] Outstanding Team Advisor of Mathematical Contest in Modeling, Xi'an Jiaotong University, 1992.
- [7] Teaching Reform Award, Xi'an Jiaotong University, 1991.
- [8] First-class Teaching Award, Xi'an Jiaotong University, 1991.
- [9] Encourage Award to Young Teachers, Xi'an Jiaotong University, 1988.

### • Research Awards

- [1] The Liu Memorial Award and Daisy Yen Wu Scholarship, Cornell University, 2001.
- [2] Research project "The effects of contaminated environments on the survival of populations" was certificated by Commission of Science and Technology of China, 1994.
- [3] Distinguished Research Achievements Award, the Education Commission of China, 1993.
- [4] Distinguished Research Achievements Award, Shaanxi Province, 1993.
- [5] Distinguished Research Achievements Award, Xi'an Jiaotong University, 1992.

#### • Service Awards

- [1] Service Award, "MTBI/SUMS of Arizona State University presented to Baojun Song for Fourteen Years of Complete Dedication and Support of MTBI." 2010.
- [2] Service Award, "MTBI of Arizona State University presented to Baojun Song for Ten Years of Dedicated Services to MTBI and to the Community He Serves." 2006.
- [3] Award of recognition, Mathematical and Theoretical Biology Institute, Cornell University, 2002.

#### • Scholarship Awards

- [1] Travel Grants, Graduate School, Cornell University, 2001.
- [2] Werly Fellowship, Cornell University, 1997–1999.
- [3] Travel Grants, Graduate School, Cornell University, 1999.
- [4] Scholarship, Education Commission of China, 1995.
- [5] Outstanding Graduation Award, Xi'an Jiaotong University, 1993.
- [6] Outstanding Student Scholarship, Xi'an Jiaotong University, 1983, 1982, 1981, and 1980.
- Presentation Awards of Students

- [1] "The Dynamics between Honeybees and Food Availability Modeled through Symbiotic Interactions", Poster award winner at 2019 Garden State Undergraduate Mathematics Conference, April 13, 2019, Raritan Valley Community College, Branchburg, NJ, presented by Joshua Nieve-Silva, Advisor Baojun Song.
- [2] "Controlling Foodborne Infections in Lettuce: Testing and Cleaning Methods for Curbing the Spread of *E. coli* O157:H7", Outstanding Presentation award winner at the 2019 Joint Mathematics Meetings MAA Undergraduate Poster Session Baltimore, MD, January 16–19, 2019, Presented by Emily Dorn, Advisor Baojun Song.
- [3] Outstanding Award of SCUDEM (SIMIODE Challenge Using Differential Equations Modeling of Montclair State team of Holly Caldes, Thomson Kneeland, Katherine Ruddy, coached by Baojun Song, 27 October 2018, Manhattan College, Riverdale NY,
- [4] "A Symmetric Intraguild Predation Model for the Invasive Lionfish and Native Grouper", Outstanding Presentation award winner at the 2012 Joint Mathematics Meetings MAA Undergraduate Poster Session, Boston, MA, January 6, 2012, presented by Margaret-Rose Leung, Advisor Baojun Song.
- [5] "A Symmetric Intraguild Predation Model for the Invasive Lionfish and Native Grouper", First Place Oral Presentation in Mathematics, Emerging Researchers National Conference in STEM, 2012, Atlanta, GA. Presented by Dustin Padilla. Advisor: Baojun Song.
- [6] "The Effects of Maternal Age on the Prevalence of Autism", poster award in the AMS and MAA Joint Mathematics Meetings at Washington, DC, January 5-8, 2009. Students: M. Bilbao, A. Castro, T. Rigazio, Advisors: Baojun Song and Xiaohong Wang
- [7] "Dynamics of HIV-TB Co-infection in South Africa", Undergraduate Research Award of Mathematics at the 2007 SACNAS Annual Meeting, Kansas City, Missouri, October 10–14, 2007. B. Jimenez-González, Advisor: Baojun Song.
- [8] "A Cluster Model of Tuberculosis of Two Strains and Its Applications to Benin", poster award recipient at The First Annual Students Research Symposium, May 5, 2007, Montclair State University, Edme Soho, faculty advisor: Baojun Song.
- [9] "The Impact of the Sleeper Effect and Relapse on the Dynamics of Cigarette Smoking Among Adolescents", Undergraduate Research Presentation Prize at SMB-SIAM Conference on Life Sciences, July 31– August 4, 2006, Raleigh, NC, sponsored by Research Triangle Institute and SMB (Society of Mathematical Biology), MTBI students: Ludguier D. Montejo, Leonard Gordon, Pamela Reitsma, Odalys Colon-Rentas, Faculty Advisors: Baojun Song, FabioSánchez, Carlos Castillo-Chavez.
- [10] Los Alamos National Laboratory (LANL) Symposium: Highlighting Student and Postdoctoral Research summer 2005 presented poster award to Jose Almora, Dowdall Sonoma, Benjamin Morin, David Murillo, Advisor: Baojun Song, Poster: "A Multi-scale Interspecies Competition Model", Los Alamos, NM, July 28, 2005.
- [11] Poster sessions award recipient at the National Joint Mathematics Meeting (AMS, MAA, AWM & NAM), January 10–13, 2001, New Orleans, LA. "Do we really have to take all our medicine? Predicting the Consequences of Large-Scale Antibiotic Misuse", by Caroline Cutting, Claudia Morales, Fabio Sanchez, Deena Schmidt, with Baojun Song and Carlos Hernandez-Suarez.

[12] Poster sessions award recipient at the National SACNAS Convention, October 12–15, 2000, Atlanta, GA. "A Mathematical Model for Lung Cancer: The Effects of Second-Hand Smoke and Education", by Carlos Acevedo-Estefania, Christina Gonzalez, Karen Rios- Soto, Eric Summerville, with Baojun Song and Carlos Castillo-Chavez.

# GRANT AWARDS AND PROPOSALS

- NIH R01, Predicting long-term outcomes from early and pre-operative bariatric surgery using neural networks, Co-PI (PI D. Thomas), 2017 (Unfunded)
- NSF proposal, Modeling Treatment Strategies for Latent Tuberculosis, PI, January, 2012. (Unfunded)
- NSF UMB training grand proposal, **Research Opportunities for Commuter Students** Mathematical Biology, Co-PI, May 2006. (Unfunded)
- Parameter Fitting for a Placental Volume Model, CSAM internal grant, Co-PI (PI D. Thomas.), 2008
- NSF proposal, Mathematical Approaches to the Study of Drug Abuse and Addiction, PI, January, 2007. (Unfunded)
- NSA grand proposal, *Research Opportunities for Commuter Students*, Senior faculty, July, 2005. (Unfunded)
- 1997, National Natural Science Foundation of China, *Dynamical Models of Transmitted Diseases*. (PI, Z. Ma)
- 1993, Natural Science Foundation of Shaanxi Province, China, Studies of persistence of multiple species.(PI, C. Li)
- 1991, National Natural Science Foundation of China, The effects of contaminated environments on the survival of populations.(PI, Z. Ma)

#### SERVICES

- Discipline-based
  - 1. 2021-, Editor Board. 2021 Journal of Mathematical Biosciences and Engineering
  - 2. 2015, Summer Director of MTBI.
  - 3. 2013-2015, Associate Editor: International Journal of Computational Mathematics.http: //www.hindawi.com/journals/ijcm/editors/
  - Editor Board. Guest editor for a special issue of the Journal of Mathematical Biosciences and Engineering in honor of Professor Carlos Castillo-Chavez, *Math. Biosci. Eng.*, 10(5&6), 2013.

- 5. Organized three sessions of Assessment of Environmental Protection and Public Health Polices in The Fourth Conference on Computational and Mathematical Population Dynamics (CMPD4), Taiyuan, China, May 29 to June 2, 2013.
- 6. 2013-2016, Associate Editor: International Journal of Computational Mathematics.http: //www.hindawi.com/journals/ijcm/editors/
- Co-organized The Fifth Annual Students Research Symposium, Representative of Department of Mathematical Sciences, Spring, 2011.
- Co-organized The Fourth Annual Students Research Symposium, Representative of Department of Mathematical Sciences, Spring, 2010.
- Session Moderator, Fourth Annual Student Research Symposium, Montclair State University, April 26, 2010.
- Editor Board. Guest editor for a special issue of the Journal of Mathematical Biosciences and Engineering in honor of Fred Brauer and Karl Hadeler. (*Math. Biosci. Eng.*, 6(2), 2009).
- 11. Member of Advisory Scientific Committee of International Symposiums on Technology Management, Taiyuan, China, 2009, 2008, and 2007.
- 12. Co-organized The First Annual Students Research Symposium, May 5, 2007, Montclair State University, Montclair, NJ.
- Co-organized three sessions (MS 9, 18, and 27), Theoretical Biology and Dynamical Systems, SIAM (Society for Industrial and Applied Mathematics) Annual Meeting, July 11-15, 2005, New Orleans, LA.
- 14. Session Moderator, The 28th Annual Sigma Xi Student Research Conference, May 7, 2005.
- 15. Chair of Contributed Session 8 in SIAM Annual Meeting in Portland, Oregon, July 11-16, 2004.
- 16. Reviewer for following Journals
  - (1) Journal of Bulletin of Mathematical Biology
  - (2) Journal of Mathematical Analysis and Applications
  - (3) Mathematical Reviews
  - (4) Journal of Mathematical Biosciences and Engineering
  - (5) SIAM Journal on Applied Dynamical Systems
  - (6) Journal of Natural Resource Modeling
  - (7) Journal of Ecological Modelling
  - (8) Journal of Theoretical Biology
  - (9) International Journal of Computers and Mathematics with Applications
  - (10) Electronic Journal of Differential Equations
  - (11) Journal Applied Mathematics Letter
  - (12) Journal of Mathematical Biosciences and Engineering
  - (13) Advances in Dynamical Systems and Applications
  - (14) Journal of Biological Dynamics

- (15) Nonlinear Analysis: Hybrid Systems
- (16) Physics Letters A
- (17) Mathematical and Computer Modelling
- (18) Nonlinear Analysis Series B: Real World Applications
- Book review: Differential Equations with Boundary Value Problems (Second Edition), J. Polking, A. Boggess, D. Arnold, Pearson Prentice Hall, Upper Saddle River, NJ, 2006.
- Departmental services
  - 1. 2021–2022 Departmental Graduate Program Coordinator.
  - 2. 2020–2021 Course Coordinator of Applied Calculus.
  - 3. 2019–2022 Chair of Department Undergraduate Curriculum Committee.
  - 4. 2019–2022 Department Personnel Advisory Committee
  - 5. 2016–2017, Faculty Search Committee V#-F25
  - 6. 2015–2017, Co-chair of Pure and Applied Math SIG (With D. Thomas)
  - 7. 2012–2013, Chair of Department Personnel Advisory Committee
  - 8. 2009–2010, Faculty Search Committee V# -F28
  - 9. 2004–2011, Bi-weekly Mathematical Contest Committee
  - 10. 2008–2012, Department Graduate Committee
  - 11. 2008–2012, Graduate Coordinator of Pure and Applied Math
  - 12. 2008–2009, Chair of Master Thesis Committee (Kimberly Rude)
  - 13. 2009, Member of Department Personnel Advisory Committee
  - 14. 2009, Master Thesis Committee (Michael Wilson)
  - 15. 2007–2011, Course Coordinator of MATH 114
  - 16. 2005–2006, Faculty Search Committee V# 31
  - 17. 2004–2005, Faculty Search Committee V# -F24 and V# -F25
  - 18. 2005, Course assessment committee for MATH 122
  - 19. 2006, Course assessment committee for MATH 221
  - 20. 2004–2006, Steering Committee
  - 21. 2004–2005, Seminar Series Committee
  - 22. 2003–2007, Librarian
  - 23. 2003–2017, SIG of Pure and Applied Math
  - 24. 2003–2004 &, 06–09, REU Coordinator

#### **PROFESSIONAL MEMBERS**

Society for Industrial and Applied Mathematics